ZANZIBAR PROTECTORATE.

REPORT ON THE DEPARTMENT OF AGRICULTURE

FOR THE YEAR

1913.

ZANZIBAR:

PRINTED BY THE GOVERNMENT PRINTER

1914.

TABLE OF CONTENTS.

Section.	Para No.	Table No.	Details.
1. General	1		Inclusion of 1912 accounts.
,, ,,	2		Appointment of Assistant Director of Agriculture.
,, ,,	3		Appointment of Inspectors and administration of Plantation Preservation Decree.
,, ,,	4		Conference with plantation-owners in regard to their present financial position.
,, ,,	5		Indian Contract Act.
,, ,,	6		Reports of Imperial Institute on native-grown crops.
2. Clove-harvest of 1913/14 etc.	7		Course of harvest.
,, ,,		1	Clove-harvest deliveries.
,, ,,		2	Export from Pemba shipping places.
,, ,,		3	District seasonal yields in Pemba.
,, ,,		4	Average price of cloves and stems.
,, ,,		5	Proportion between seasonal yields of cloves and stems.
,, ,,		6	Exports of cloves to different countries.
,, ,,	8		Labour Extraordinary.
,, ,,		7	Free passes issued to Pemba.
,, ,,	9		Exports of copra and minor agricultural produce.
,, ,,		8	Exports of coconut and sim-sim oil.
,, ,,		9	Imports of agricultural produce and stock.
,, ,,		10	Average mean temperature.
3. Meteorological Observations		11	Rainfall of the two islands for past 7 years compared with total of the clove-crops.
,, ,,			
,, ,,	10		New Stations.
4. Government plantations			
,, ,,	11		Allowances for cultivation.
,, ,,		12	Expenditure on cultivation for past 12 years.
,, ,,		13	Revenue for 1912 and 1913.
,, ,,		14	Expenditure for 1912 and 1913.
,, ,,		15	Receipts and expenditure on individual-plantations for 1912.
,, ,,		16	Receipts and expenditure on individual plantations for 1913.
,, ,,		17	Clove-yields on principal plantations.
,, ,,		18	Clove crop total yields from Government plantations.
,, ,,	12		Coconut nurseries and sale of plants.
,, ,,	13		Fires on Government plantations.
,, ,,		19	Fires on Government plantations 1912 and 1913.
,, ,,	14		Licenced coconut plantations.
,, ,,		20	Leased plantations.
,, ,,		21	Licenced coconut plantations.
5. Public Gardens			
,, ,,	15	22	Revenue and Expenditure.

ZANZIBAR PROTECTORATE.

REPORT ON THE DEPARTMENT OF AGRICULTURE FOR THE YEAR, 1913.

SECTION 1.—GENERAL.

Par. 1.—In my 1912 Report I was unable to furnish a statement of the accounts of the Government plantations for the year 1912/13 for reasons explained in that Report, and in order that these annual records may be complete, I include them with those of the year 1913/14.

Par. 2.—Mr. Robert Armstrong who was appointed Assistant Director of Agriculture in 1912, took up his duties in February 1913.

Par. 3.—Inspectors have been appointed in connection with the Plantation Preservation Decree—Mr. Armstrong and Mr. MacIntyre undertaking the duties in Zanzibar Island: and Mr. Hartland in Pemba.

No prosecutions have yet been instituted, as it is desirable that the responsibilities of plantation-owners should be brought home to them at first by means other than by prosecutions: and for the time being I am having the terms of the Decree explained to them by the Inspectors and letters of warning sent to them.

In this and my former Reports there will be found particulars of our own losses from fire, which are most serious every year: and often arising from the same cause, namely the wanton carelessness of users of these paths.

The work to be done under this Decree is of the greatest importance to us, and to have a really beneficial result, the Inspectors will have to give more time to it than at present they are able to.

The disposal of the Government's out-lying properties, and the concentration of plantation work in one group will give the Inspectors more time for their general Agricultural duties.

Par. 4.—There has been during the year considerable agitation among plantation-owners with regard to the 25% duty on cloves.

Though they possess a legitimate grievance this agitation was not of an entirely bona fide character, there being behind it persons interested in the clove-trade.

Arising out of Foreign Office correspondence concerning some co-operation proposals sent me by Mr. Nicol and which the late General Mathews had at one time favoured, I drew up a memorandum explaining to Arab plantation-owners the general effect on their plantations and profits caused by the lack of co-operation amongst them in such matters as labour rates, sale of their produce and so forth.

The memorandum also dealt with the suggested formation of a co-operative selling agency of their cloves: and of co-operative credit associations, based on their tribal system, for the purpose of obtaining loans from Government in the first instance, and ultimately from their own associations for regenerating their plantations, and cleaning them in small crop-years when they themselves were without money.

A meeting was held, presided over by H. H. the Sultan, and I explained the memorandum to the representative Arabs present: who promised to give consideration to it, and present the results of their conferring at a second meeting.

They, however, made no further movement in the matter: and it is evident that they themselves regard the abolition of the duty as the only panacea for the bankrupt condition of the great body of Arab land-owners.

I do not, however, despair of rousing their interest in co-operation: for I have suggested that the native Agricultural scholars who are probably going to India for a

course of training at Poona, should on the completion of their course, study the constitution and working of the Indian village co-operative credit associations and on their return here act as our propagandists.

They could not fail to be impressed by the vast benefits accruing to the Indian Agriculturist through these local associations, and the Arabs and natives here will put far greater faith in the case presented by one of their own people than by any white official propagandist.

Par. 5.—Another Decree of which we have now experienced one year's working is that applying the Indian Contract Act.

While at first it was not clearly understood by those who had to administer it, or by the natives who entered into the contracts, yet there is no doubt that its effect was very beneficial, and will be still more so in future years. There were as formerly breaches of contract on a wholesale scale, and much yet remains to be done in devising some system of official registration of contracts and of tracing the movements of the labourers.

As regards our own plantations, the successful harvesting of the heavy crop at Fufuni, which always has suffered from a shortage of labour, was due to the fact that we could rely on a large body of contract labour.

Par. 6.—The Imperial Institute has forwarded reports on most of the agricultural crops grown in the Protectorate, and of which I sent samples home.

SORGHUM VULGARE.

1—Mtama Maupe. Sorghum, white.
2—Mtama Maikundu. Sorghum, red.

Description.—1—The "white" sample consisted of rather small seeds, which however were plump and in good condition.
2—The "red" sample consisted mainly of rather small seeds of poor appearance.

Results of examination expressed on material as received:—

		Present sample "red" sorghum	India "dari"	Sudan "dura"
Moisture	per cent	10·0	10·70	8·45
Crude proteins consisting of ...	„	11·2	7·75	13·06
True proteins	„	10·8	...	...
Other nitrogenous substances	„	0·4	...	...
Fat	„	2·8	3·03	3·30
Starch, etc.	„	72·1	74·36	72·45
Fibre	„	1·8	2·21	1·03
Ash	„	2·1	1·95	1·71
NUTRITIVE VALUE:				
Nutrient ratio	„	1:7	1:10·5	1:6·1

(The ratio between the percentage of crude proteins and the sum of the percentages of starch and fat, the latter being first converted into its starch equivalent.)

Food units	107	101·3	113·3

(The total obtained by adding the percentage of starch to 2·5 times the sum of the percentages of fat and crude proteins.)

The seeds contained no cyanogenetic glucosides.

Commercial valuation.—The current prices of this grain in the United Kingdom are as follows (May 1913):—

Syrian dari in Liverpool 33/6 to 37/- per 480 lb.

Rangoon dari in Hull, 31/- to 33/- per 480 lb.

A small consignment of Sudan dura was sold in London in November, 1912, at £6 per ton.

PENNISETUM TYPHOIDEUM. "Mawali".

Description.—Unhusked seeds of *Pennisetum typhoideum*, plump and in good condition.

Results of examination as expressed on material as received:—

		Present sample.	Recorded by Church in "Food grains of India".
Moisture	per cent	10·60	11·3
Crude proteins consisting of ...	„	12·47	10·4
True proteins	„	11·37	...
Other nitrogenous substances	„	1·10	...
Fat	„	5·00	3·3
Starch, etc.	„	67·13	71·5
Fibre	„	2·80	1·5
Ash	„	2·00	2·0
NUTRITIVE VALUE:			
Nutrient ratio	„	1:6·3	1:7·5
Food units	„	110·8	105·7

The seeds contained no cyanogenetic glucosides.

Commercial valuation.—The seed does not come on the English market: but consignments would probably realize about 22/- per 480 lb. at the present time (May 1913).

SETARIA. (SPECIES) "Umanga".

Description.—These seeds were derived from a species of *Setaria.* They were plump, clean, and in good condition.

Results of examination as expressed on material as received:—

		Present sample	Setaria italica seeds analysed at the Colonial Museum Harlem.
Moisture	per cent	9·47	8·60
Crude proteins consisting of ...	„	10·20	11·81
True proteins	„	8·32	...
Other nitrogenous substances ...	„	1·88	...
Fat	„	4·31	3·12
Starch, etc.	„	65·11	61·44
Fibre	„	7·83	12·38
Ash	„	3·08	2·65
NUTRITIVE VALUE:			
Nutrient ratio		1:7·3	1:5·8
Food units		101·4	98·8

The seeds contained no cyanogenetic glucosides.

The sample was submitted to a firm of brokers in Liverpool who considered it of fair quality and valued it at about 26/- per 450 lb., less 2% discount, c. i. f. Liverpool, (February 1913).

ELEUSINE CORACANA. "Uimbe".

Description.—The seeds were in good condition but a small quantity of unhusked seed was present.

Results of examination expressed on material as received:—

		Present sample.	Sample from Uganda examined at Imperial Institute.
Moisture	per cent	10·3	14·0
Crude proteins consisting of ...	„	5·4	6·2
True proteins	„	5·2	...
Other nitrogenous substances ...	„	0·2	...
Fat	„	1·5	1·1
Starch, etc.	„	76·9	72·9
Fibre	„	3·4	3·0
Ash	„	2·5	2·8
NUTRITIVE VALUE:			
Nutrient ratio	„	1:14·9	1:12·2
Food units	„	94·0	91·2

The seeds contained no cyanogenetic glucosides.

Commercial valuation.—A sample of *Eleusine coracana* seeds from Uganda was valued as a feeding-stuff at £ 4-10-0 to £ 5 per ton in London in 1908, (Bulletin of the Imperial Institute Vol. VII (1909) p. 151). The Zanzibar product should sell at about the same rate.

Voandzeia Subterranea. "Njuga mawe".

Description.—The sample consisted mainly of yellow beans, but a few purple, brown and black beans were present.

Results of examination expressed on material as received:—

		Present sample.	Previous sample from Northern Nigeria examined at the Imperial Institute.
Moisture	per cent	7·8	13·1
Crude proteins consisting of ...	„	19·1	16·0
True proteins	„	18·0	...
Other nitrogenous substances ...	„	1·1	...
Fat	„	6·5	6·2
Starch, etc.	„	58·9	58·4
Fibre	„	4·2	3·9
Ash	„	3·5	2·4
Nutritive value:			
Nutritive ratio	„	1:3·9	1:4·5

The seeds contained no cyanogenetic glucosides.

Commercial valuation.—A sample of the seeds from Northern Nigeria previously examined at the Imperial Institute was submitted to a firm of manufacturers of feeding-cakes, who stated that they could not find that the seeds had ever been used in the United Kingdom (see Bulletin of the Imperial Institute Vol. VII (1909) p. 151) and did not consider that they would have a very high commercial value as a feeding-stuff for cattle.

The seeds are however a useful food-stuff, and their cultivation for local use might be encouraged in districts where more valuable leguminous crops, such as the true ground-nut and the soy bean, cannot be remuneratively grown.

Para Rubber Seed.

Description.—The seeds had the ordinary appearance of the seeds of *Hevea brasiliensis*, but were larger than is usually the case. They consisted of husk 56% and kernel 44%.

Yield of oil.—The kernels contained 7·1% of moisture, and, on extraction, furnished 45% of oil, which is about the usual yield for the kernels of Para Rubber seed.

Character of oil.—Clear golden yellow oil, which deposited a little stearin on standing.

Results of examination of oil:—

	Present Sample.	Results previously recorded at the Imperial Institute.
Acid value*	42·7	10·7 to 29·9
Saponification value* ...	198·8	185·6 to 195·7
Iodine value, per cent ...	136·0	121·2 to 136·2

*Milligrams of potash for 1 gram of oil.

Commercial valuation.—The oil was rather acid, but otherwise had the usual characters of Para Rubber seed oil.

Para Rubber seed should be decorticated in the country of origin, and the kernels alone shipped to Europe.

If carefully dried in the sun and shipped in bags these Zanzibar kernels would probably realise about £10 per ton in the United Kingdom (August 1913).

Kapok Seed.

Description.—Small brownish-black seeds, of the usual appearance of the seeds of *Eriodendron anfractuosum.*

Yield of oil.—The seeds contained 12·7% of moisture and, on extraction, furnished 21% of oil, which is a satisfactory yield.

Character of oil.—Clear, brownish-yellow oil, possessing a faint smell.

Results of examination of oil:—

Specific gravity at 15·5° to 15°·5 C	0·914
Solidifying point of fatty acids	...
Acid value*	26·0
Saponification value*	194·2
Iodine value, per cent	101·5

* Milligrams of potash for 1 gram of oil.

Commercial valuation.—The seed represented by this sample should be saleable in Europe at the current price if marketed in commercial quantities.

Kapok seed in Java is at present worth £4-10-0 to £4-15-0 per ton, and its value in Rotterdam, which is the principal European market for this product, is about £6-10-0 per ton (August 1913).

Caesalpinia Bonducella.

The sample consisted of more or less spherical seeds about ¾ inch in diameter, and varying in colour from pale grey to slate grey; a few brown seeds were also present.

The shell was hard and enclosed a nearly white starchy kernel which was intensely bitter.

These seeds are the "*Haba de san antonio*" of the Mexican Pharmacopœia. They are stated to be used in Mexico as a tonic and anti-periodic, their activity being ascribed to the presence of an ill-defined bitter principle known as "bonducin" or "guilandinin" which when administered in doses of 10 to 20 centigrams is alleged to be as effective as quinine.

The kernels have also been stated to contain an alkaloid and about 20% of a fatty oil.

There is no demand for this seed in Europe.

Moringa Pterygosperma. "Mronga".

Description.—Pale-brown round seeds with three papery "wings". The seed consisted of shell 39% and kernel 61%.

Some of the kernels were mouldy.

Yield of oil.—28·6% from the kernels.

Character of oil.—The oil had the usual character of *Moringa pterygosperma* oil.

Commercial valuation.—The yield of oil from the kernels of these seeds is somewhat low, as a previous sample from Northern Nigeria examined at the Imperial Institute contained 38% of oil in the kernels.

The low yield in the present case may perhaps be due to the presence of mouldy kernels.

From previous investigations it appears that the seed would be saleable in Europe if obtainable in quantity, but that its value is at present rather doubtful owing to the fact that it is uncertain whether the residual cake can be used as a feeding-stuff.

If this were the case, the seeds would probably realize from £ 7 to £ 8 per ton in the United Kingdom.

The cake however has been found to contain traces of an alkaloid and also a large quantity of non-albuminoid nitrogenous matter, and it may consequently be found unsuitable for use as a feeding-stuff.

The oil could be used for soap-making, and for this purpose would probably have a somewhat lower value than cotton seed oil, which is at present worth about £27 per ton in Liverpool (June 1913).

At one time the oil was used to some extent for lubricating delicate machinery such as clocks, etc., but recent trials have shown that it is not particularly suited for this purpose, for which it is now superseded by sperm oil.

Oil Palm Kernels. "Mchikichi".

Description.—Rather small palm nuts with shell of medium thickness. The nuts consisted of shell 61% and kernel 39%.

Yield of oil.—52·7% from the kernels, representing a normal yield.

Character of oil.—The oil had the usual appearance of palm kernel oil.

Commercial valuation.—Undecorticated palm nuts would be unsaleable in Europe but the dried kernels freed from the shells would realise the ordinary market price of palm kernels, the current value of which is £ 21-10-0 to £ 22-6-0 per ton, less 5%, *ex* quay, Liverpool (June 1913).

Telfairia Pedata. "Kweme".

Description.—Flat seeds, irregularly circular in shape and about 1¼ to 1½ inches thick.

The single seeds averaged 4·9 grammes in weight.

The seeds consisted approximately of fibrous husk 11%, shell 38% and kernel 51%.

A previous investigator has reported 7, 33 and 60% of fibrous husk, shell and kernel respectively.

Yield of oil.—The kernels yielded 56·9% of oil. Previous observers have recorded yields of 60 to 64%.

Character of oil.—A viscous, slightly reddish-brown oil.

Results of examination of oil:—

	Present sample.	Figures previously recorded.
Specific gravity at 15°/15°C	0·919	0·915 to 0·9185
Acid value*.....	2·6	0·34 to 2·44
Iodine value.....	89·0	84·2 to 100·7
Saponification value*.....	196·0	186·5 to 202·0

* Milligrams of potash for 1 gram of oil.

Commercial valuation.—The oil yielded by the seeds of *Telfairia pedata* would be suitable for soap-making, and, if expressed from the decorticated kernels, it might possibly be utilised for edible purposes.

The husk contains an intensely bitter substance, which passes into the oil if the entire seeds are crushed, and in order to obtain an edible oil it would be necessary to press the kernels only.

For the same reason the cake left after pressing the undecorticated seeds could not be utilised as a feeding-stuff and could only be employed as manure, whereas the cake obtained on pressing the decorticated kernels would probably be suitable for use as a cattle food.

It is thus clear that the oil and the cake will both be more valuable if obtained by crushing the decorticated kernels, but the removal of the husk presents considerable difficulties owing to its hard, tough and fibrous nature.

The process of shelling the seeds by hand is long and laborious, and so far as is known no machine has yet been invented for decorticating them rapidly and cheaply.

Small quantities of the seeds of *Telfairia pedata* have been shipped from time to time to Marseilles and Hamburg, but no regular trade has been established.

It is possible that when other oil-seeds are scarce and dear, there might be a market in Europe for unshelled seeds of *Telfairia pedata*, but until a machine has been devised for shelling them so that only the kernels need be exported, it seems impossible that any large trade can be developed.

Sesamum Indicum. (Black) "Ufuta" Sesame.

Description.—Small very dark-brown seeds, many of which were rather flat, whilst some were quite immature.

The sample was rather dusty.

Yield of oil.—49·1%. The oil had the usual appearance of sesame oil.

The oil was not submitted to chemical examination.

Commercial valuation.—See under "white" sesame.

The black seed is somewhat less valuable than the white.

Sesamum Indicum. (White) "Ufuta" Sesame.

Description.—Small plump seeds of dark-cream colour and of somewhat dirty appearance.

The sample was slightly dusty.

Yield of oil.—53·8%. The oil had the usual appearance of sesame oil.

The oil was not submitted to chemical examination.

Commercial valuation.—The present price of sesame seeds in the United Kingdom is from £14 to £18 per ton, and in Marseilles 44 to 54 francs per 100 kilos (June 1913).

Ricinus. "Mbarika": Castor oil.

Description.—Small dark greyish-brown, mottled castor seed, in good condition.

Commercial valuation.—The present price of Bombay castor seed in the United Kingdom is £11-11-0 per ton (June 1913): and this Zanzibar seed would probably fetch about the same price, if exported in good condition.

Jatropha Curcas. "Mbono".

Description.—The seed was in good condition and had the usual appearance of *Jatropha curcas* seed; a few broken seeds and kernels without shells were present.

The seeds consisted of shell 33·7% and kernel 66·3%.

Yield of oil—51·2% from the kernels or 33·9% from the entire seed.

The oil was not submitted to chemical examination.

Commercial valuation.—A market could no doubt be found for this seed; but so far it has not been produced in quantities large enough to warrant large scale trials being made with it in the United Kingdom.

Samples were also sent of various native crops, representing well-known products: and they were therefore not analysed at the Imperial Institute.

1. Vigna Catjang, Cowpea. "Kunde".—There is a small market for these seeds in the United Kingdom. A sample received at the Imperial Institute from Hong-Kong was valued in London in 1911 at £8 per ton.

2. Phaseolus Mungo. "Chooko" (green).—A sample of *P. Mungo* seeds (green) from Hong-Kong, in good condition, was valued by merchants at £6-15-0 per ton, c.i.f. United Kingdom ports, when "gram" was quoted at £6-13-0 per ton in Liverpool. The present price for "gram" is £6-16-0 per ton in Liverpool (May 1913).

3. Dolichos Lablab. "Fiwe".—A sample of *Dolichos Lablab* beans from Hong-Kong was submitted by the Imperial Institute in 1911 to brokers, who reported unfavourably on them, and stated that they would not readily find a market in London except at a low price.

4. Cajanus indicus. Pigeon-pea. "Mbazi".—A sample of these seeds from Sierra Leone was valued in June 1910 at from £4 to £6 per ton in London for feeding purposes.

A sample from the Sudan was valued at from £5-10-0 to £6-10-0 per ton in September 1912, the higher price being due to a general rise in prices in the interval.

Samples of maize, ginger, capsicum, aud annatto bought in the open market, were also sent: but arrived in too bad a condition for any commercial valuation.

Further samples are being sent.

Small consignments of Kapok and Kola were sent from Dunga.

Kapok.—Cleaned by the native Indian-gin or bow.

Weight before cleaning	...	...	...	684 lb.
„ after „	...	...	...	360 lb.

Yielding 146 lb. of seed.

The expenses (including cleaning of 30 bags of Kapok @ Re. 1·25 per bag, freightage and commission) were Rs. 91·32. The Kapok sold for 6*d.* per lb.

The seed was sent to the Imperial Institute for commercial valuation, where it was reported as equal to Java seed, this selling at Liverpool at £6-10-0 per ton.

It will thus be seen that a handsome profit would be secured by the natives here if they would collect the "Msufi" from their trees—it is often met with as a boundary tree—and the Government act as a selling agency, pending the formation of those Co-operative Associations, which I have dealt with in my 1912 Report: and which would undertake all such work.

Kola.—One thousand three hundred and twenty one lb. were sent.

The total expenses, including freightage and commission, were Rs. 85·39. It sold at 4½*d.* per pound.

The Imperial Institute has also forwarded reports on our native-grown rice: of which I sent them several samples.

1. Pemba rice. Hill variety. "Kikege".—The colour of this sample in husk varied from light straw to pale brown. The length of the grains varied from medium to long and the width from medium to broad. The rice was in good condition, clean, and free from extraneous matter.

The rice on being husked and cleaned yielded on the whole a hard, fairly clear, translucent grain, of good appearance with a very slight yellow tint.

About 30% of the grain had a red cuticle, which could be removed by cleaning, yielding both translucent and white opaque grains.

The husked grains measured from 6 to 7 m.m. in length and from 2 to 2·5 mm. in width.

2. Pemba rice. Valley variety. "Sifala".—The sample, in husk, was of a pale straw colour. The grains were broad and of medium length.

The sample was clean, of good appearance, and free from extraneous matter and insect attack.

On being husked and cleaned the rice yielded for the most part moderately hard, fairly clear grains, translucent on the whole, though a considerable number were on the whole white and opaque.

About 20% of the husked grains had a red cuticle similar to that described in the preceding sample (Kikege).

The cleaned rice *(i.e.* after the removal of the cuticle) had a very slight yellow tint. The husked grains averaged 6 m.m. in length and 2·5 m.m. in width.

3. Pemba rice. Valley variety. "Sindano".—The sample, in husk, was of a straw colour. The grains were long and slender in shape. The sample was in good condition, clean, and free from extraneous matter, but there were signs of insect attack, and a small proportion of weak discoloured grain was present.

On being husked and cleaned, the rice yielded hard, clear, translucent grains of good appearance and of a very slight yellow tint.

The husked rice contained 2% of grain having a red cuticle, which could be removed by cleaning, yielding slightly opaque grains.

The length of the husked grains was 7 to 7·5 m.m. and the width 2 to 2·5 m.m.

4. Pemba rice. Valley variety. "Sena".—The unhusked grains varied from a straw tint to pale orange-brown.

The grains were broad, and varied in length from medium to long.

They were in good condition, clean and free from extraneous matter.

The rice when husked and cleaned yielded hard, fairly clear, translucent grains of good appearance and of a very slight yellow tint. The husked rice contained approximately 4% of grains with a red cuticle, similar to those in the preceding samples.

The length of the husked grains was from 6 to 6·5 mm. and the average width was 2·5 m.m.

5. Pemba rice. Valley variety. "Sifala ekundu".—The unhusked grain was mostly reddish-brown in colour, but in a few cases of a pale straw colour.

The grains varied in size, but on the whole were rather thin.

The rice when husked and cleaned yielded for the most part fairly hard, translucent grains of a slight yellow tint. The husked rice contained about 13% of grains having a red cuticle which could be removed by cleaning, yielding both translucent and white opaque grains.

The average length of the husked grains was 6 m.m. and the average width 2 m.m.

Pemba rice. Hill variety. "*Halwa*"—The unhusked grains were rather short and broad, and of a pale straw colour.

The rice when husked and cleaned yielded moderately hard grains, many of which were white and opaque on one side. A considerable number of translucent grains of a slight yellow tint were also present.

The husked rice contained 7% of grains having a red cuticle, which could be removed by cleaning, yielding chiefly white opaque grains.

The length of the husked grains was from 5 to 6 m.m. and the width from 2·5 to 3 m.m.

7. Pemba rice. Valley variety. "*Kibawa*".—The unhusked sample was of a straw colour and partially enveloped by two glumes.

The grains were thin and of medium length.

The rice when husked and cleaned yielded moderately hard, fairly clear, translucent grains.

About 2% of the grains had a red cuticle, which could be removed by cleaning, yielding chiefly translucent grains.

The length of the husked grains averaged about 6 m.m. and the width 2 m.m.

8. Pemba rice. Valley variety. "*Mzuri wendo*".—The sample, in husk, was of a brown colour. The grains were medium to long and of medium width.

The rice when husked and cleaned yielded moderately hard, clear, translucent grains of good appearance.

It contained practically no grains with a red cuticle.

The length of the husked grains was from 6 to 7 m.m. and the width averaged 2·5 m.m.

Commercial valuation.—There is no market in the United Kingdom for rice in the husk.

Small quantities of sample No. 2 ("Sifala", Valley variety) which may be regarded as fairly typical of the rest, were therefore husked at the Imperial Institute, and the husked grains submitted to two firms of merchants in London.

One firm, after carefully examining the husked rice, and submitting it to some of their principal buyers, valued the sample at 10*s.* to 10*s.* 6*d.* per cwt. *ex* ship, London, (April 1913) and suggested that a small trial consignment should be shipped to London.

The second firm stated that the husked rice was suitable for the United Kingdom and would realise about 10*s.* per cwt. delivered in bags in London (April 1913).

Conclusions and recommendations by the Imperial Institute.—"The husked rice prepared from the paddy represented by these eight samples is of good quality and would be readily saleable in the United Kingdom.

"If supplies are available for export a trial consignment of at least a ton should be husked in Zanzibar and forwarded to the Imperial Institute for sale on the London market".

I have included these rice reports here, not because we at present can produce supplies available for export, but as a record of the varieties that have been grown here since the time when the Arabs in the days of their prosperity largely cultivated this crop, and in view of the possibility under a more prosperous condition of the land-owning class, whether large or small owners, of a return to a more general cultivation of it.

SECTION 2.

Clove-harvest 1913-14.

Par. 7.—The marked feature of the past season was the heavy crop in the Mkoani district accompanied by its rapid and simultaneous ripening.

Had it been possible to gather the cloves when actually ready, the picking would have been completed in three weeks time.

Some 15% to 20% of the crop was lost in this district, which was unavoidable, as though 10,000 of the Zanzibar men were picking in the southern plantations, and all the able-bodied Wapemba of the inland villages, they could not cope with the crop.

There was the usual unfortunate competition amongst the plantation-owners for labour together with the resulting high cost of harvesting.

Picking generally commenced at 5 pice a pishi, rapidly rising to 8, 10 and towards the end even 12 pice.

I recommend that all owners be compelled to use a pishi measure of a uniform size.*

The present custom of using wooden bowls of deceptive shape unsettles the pickers and causes disputes and desertions.

Table I gives the seasonal yields of past years.

Table II shows the exports of cloves, copra and rubber from the various places of shipment in Pemba.

Par. 8.—The sum of Rs. 19,472 was spent on work in connection with the general conduct and supervision of the clove-harvest in the two inlands.

This is much less than the sums which used to be incurred in former years of a large harvest.

The principal items of expenditure were:—

Labour-collecting through 4 Collectors in Zanzibar	...	...	100
do 6 Collectors in Pemba		...	1,500
Gratuities to masheha, Zanzibar	...	...	4,000
do Pemba	...	...	3,000
Extra boat service at Ports	...	...	1,100
Bonus to overseers	...	...	800
Six inspecting-jemadars	...	...	720
Extra clerks	...	...	2,430
Agricultural Department contingencies	...	...	1,000
Zanzibar Collectorate contingencies	...	...	600
Pemba Collectorate contingencies	...	...	600

Par. 9.—Table VIII gives the exports of the agricultural produce grown in the Protectorate for the past ten years.

Cloves are fully dealt with in another part of this Report.

The last three years show a large increase in the output of copra due partly to areas of plantations coming into bearing but more especially to the greater attention owners now pay to this source of plantation-revenue.

The Government must for some time continue to be the chief Agent through which the coconut area is increased: the Arabs looking to its nurseries for their supply of young plants, and I strongly recommend that the policy of laying down large nurseries be continued. They have had recently to be curtailed for lack of funds. The plants from these have been sold at cost-price, and there has been a great demand for them.

The sim-sim grown is sent to local oil-mills of which there are six in the town of Zanzibar, three worked by camel-draught.

The decrease in the production of chillies corresponds with the more general activities of the Wahadimu who grew them, these people now taking a chief part in the clove-harvest, whereas up to 1904 they held aloof.

The Government has therefore no reason to be dissatisfied with this state of affairs.

The rubber is almost wholly derived from the Government Forest in Pemba: and this was closed to collectors for the greater part of the year, as the price being paid, which had been unduly raised in 1912, made its purchase unremunerative.

The ground nuts grown are consumed locally or sent to the oil-mills in the Town.

Oil-palm kernels are collected in Pemba, a Table of the exports from that island being given in another part of this report.

The collection of gum-copal has ceased, the natives having increasing difficulty in finding it, and moreover turning their attention to more easy ways of earning money.

It is similarly decreasing in German East Africa, and it is there attributed to the exhaustion of the fossil deposits and also to the lowness of the price caused by the competition of New Zealand kauri gum which has been in the market at much lower prices.

* This has since been done.

SECTION 3.

Meteorological Observations.

Par. 10.—Coincident with the closing of the Dunga experimental station was the transference of its meteorological instruments to Dr. Charlesworth.

The collection of data from the district Stations will, however, now be a function of the Agricultural Department.

Rain gauges exist at Chwaka, Mkokotoni and Weti.

A self-recording gauge, recommended by the Royal Meteorological Office has been ordered: and it is hoped that in the course of the next year rain and temperature records may be kept at each district Station and at the three chief Government plantations of Marseilles, Selem and Fufuni.

SECTION 4.

Government Plantations.

Par. 11.—In presenting these statements, the item to which I wish chiefly to draw attention is that of "Cultivation".

It forms the principal charge against the plantations.

The Government possesses about three hundred acres of young cloves and about eight hundred acres of young coconuts and until these reach bearing stage the charges for cultivating them must be kept distinctly separate from the general expenses of cleaning the bearing areas, when estimating the profits of a plantation.

For to estimate the profits or losses by merely deducting the total expenditure of the Department against its total revenue is neither actuarially correct nor does it give a true picture of the condition of the plantations as a whole.

There is also in many of the plantations a considerable amount of unproductive expenditure caused by the necessity of keeping clean large gaps resulting from old fires or past neglect when they were not in the hands of the Department.

To plant up all these gaps so that the expense of cleaning might become productive would mean a considerable initial outlay.

The attached Table gives the history of the Allowances for cultivation for a period of years.

The low figures from 1903 to 1906 are explained by the custom of the freed slaves working three days a week for no pay in return for being allowed to live on the Government land, a custom discontinued on account of the disputes it caused.

Par. 12.—The Government has in the past sold its surplus coconut plants to Arabs and natives: and I recommend that the practice be considerably extended: so that landowers wishing to plant may feel assured that a supply of young plants will be forthcoming.

With two or three large central nurseries, the selection of nuts could be carried out under proper supervision: and the Department as the supplier of the seed can keep more in touch with the plantings of the people, a consideration of importance in dealing with measures of protection against the beetle.

In 1912, 2,750 plants were sold for Rs. 166: and in 1913, 14,000 plants for Rs. 928.

The fruit from the mango trees, jack-fruit trees, etc., in the plantations is sold on the tree, and fetched in 1912 Rs. 1,334: and in 1913 Rs. 1,304, exclusive of pine-apples and Bombay mangoes.

Par. 13.—Fires are common in the hot weather: and generally in the Government plantations occur in the neighbourhood of the Railway.

Stringent regulations are in force on our plantations with regard to the burning of weeds by natives: but gross and culpable carelessness often cause great damage notwithstanding, and it is extremely difficult to get any conviction in Court.

The subject has been considered by the Government with a view to special legislation, which I consider very necessary.

Par. 14.—The following table shows that there has been a steady rise in the revenue from coconuts.

Various causes contribute to this—the rise in the price of copra, the coming into bearing of young trees, the ability of native licencees to control the thieving, though complaints are numerous still on this head: but the chief cause in my opinion is that the people offering now recognise that the Government though licencing the crop, yet cultivate the plantation with a view to increasing the bearing properties of the trees.

Up to 1910, the first year in which this system was tried, and the revenue was about Rs. 20,000, most of the cultivation grant was spent on the clove areas, the grant being insufficient to clean properly both.

And this so much so, that most of the finest plantations were leased, and returned to us, under forfeiture in a state of jungle.

Since then by means of special grants and a better system of control of the plantation accounts, the jungle has heen eradicated, and the plantations, at the end of 1913 were in a fair state of cultivation, and the revenue from the coconuts had risen to over Rs. 100,000.

It is most important for the future of these areas that sufficient money be allowed to keep them clean.

SECTION 5.

Public Gardens.

Par. 15.—The Gardens have been indebted, as usual, to a number of foreign Botanical Gardens and Agricultural Departments for seeds and plants: and this Department has made the usual exchanges.

The re-built Hall in the Victoria Gardens has been let for various entertainments, Rs. 280 having been received as rents.

F. C. McCLELLAN,
Director of Agricnlture.

Zanzibar, 1st March, 1914.

Table I.

Course of harvest and deliveries compared with former years.

Months	1904/05 Zanzibar * frs.	1904/05 Pemba frs.	1904/05 Total frs.	1905/06 Zanzibar frs.	1905/06 Pemba frs.	1905/06 Total frs.	1906/07 Zanzibar frs.	1906/07 Pemba frs.	1906/07 Total frs.	1907/08 Zanzibar frs.	1907/08 Pemba frs.	1907/08 Total frs.	1908/09 Zanzibar frs.	1908/09 Pemba frs.	1908/09 Total frs.
July ..	4541	73	4614	3082	21555	24637	6178	856	7034	13416	10540	23956	5102	15043	20145
August ..	7238	13093	20331	2241	19010	21251	4015	4058	8073	40292	73950	114242	5934	15222	21156
September ..	6142	71219	77361	1625	14290	15915	4539	36824	41363	45812	124007	169819	7534	15929	23463
October ..	4466	114307	118773	7720	10581	18301	7381	54575	61956	33185	114975	148160	15182	20384	53566
November ..	5678	10793	86471	11679	12355	24034	19243	51618	70861	21904	55261	77165	31012	45898	76910
December ..	6436	95689	102125	18284	17175	35459	14032	26516	40548	15975	38818	54793	34003	63029	97032
January ..	9193	91023	100216	48125	21765	69890	4379	15225	19604	10101	30365	40466	34944	100499	135443
February ..	13654	51051	64705	28884	4738	33622	1367	5427	6794	7407	22684	30091	13270	81934	95204
March ..	9951	51432	61383	17023	2720	19743	1232	5580	6812	7557	27944	35501	5352	38924	44276
April ..	4793	30041	34834	9762	1758	11520	400	1027	1427	6477	16214	22691	3438	21044	24482
May ..	4786	27473	32258	10789	1817	12606	109	1302	1411	6145	17754	23899	2987	11654	14641
June ..	4435	28014	32449	19221	1971	21192	129	488	617	5391	9481	14872	6969	20131	27001
Total ..	81313	584208	665521	178435	130635	309070	63004	203496	266500	213662	541993	755655	165727	449691	615418

Months	1909/10 Zanzibar frs.	1909/10 Pemba frs.	1909/10 Total frs.	1910/11 Zanzibar frs.	1910/11 Pemba frs.	1910/11 Total frs.	1911/12 Zanzibar frs.	1911/12 Pemba frs.	1911/12 Total frs.	1912/13 Zanzibar frs.	1912/13 Pemba frs.	1912/13 Total frs.	1913/14 Zanzibar frs.	1913/14 Pemba frs.	1913/14 Total frs.
July ..	3458	10222	13680	1519	3113	4632	623	1527	2150	1567	4466	6023	31445	1634	33079
August ..	960	4876	5836	1054	6334	7388	9248	12642	21890	771	6926	7697	22930	42571	65501
September ..	2133	14847	16980	2294	25018	27312	17906	64671	82577	2834	24252	27086	9203	111086	120289
October ..	3073	32952	36025	3869	18290	22159	17482	130651	148133	5549	20754	26303	11009	160353	171362
November ..	7723	38416	46144	5992	16601	22593	19024	134417	153441	3048	13719	16768	15511	100476	115987
December ..	17906	59509	77415	4661	12844	17505	17357	74940	92297	2338	5348	7687	13797	52311	66108
January ..	34652	62107	96758	7301	13531	20238	54928	60448	115376	3900	18425	22325	14941	50636	65577
February ..	24373	36043	60416	15986	18204	34190	31081	35580	66661	1091	4317	5409	9743	39089	48832
March ..	9196	12558	21754	4441	8167	12608	21616	22277	43893	1002	3288	4290	6820	33066	39886
April ..	3600	9130	12730	960	2581	3541	16398	19473	35871	172	2185	2357	4135	17885	748641
May ..	1655	11460	13125	368	5282	5650	9715	13737	23452	139	330	469	4257	20617	773515
June ..	934	7928	8862	1148	3339	4487	1129	11790	12920	8607	358	8965	1795	8370	783680
Total ..	109678	300047	409725	50196	139307	189503	216507	582153	798660	31018	104368	135386	145586	638094	783680

* One frasla equal to 35 lbs.

Table II.

Exports from Pemba Shipping Places, 1913.

District.	Port.	Cloves Fras. Quantity	Cloves Fras. District Total	Stems Fras. Quantity	Stems Fras. District Total	Copra Fras. Quantity	Copra Fras. District Total	Rubber Fras Quantity.
Weti	Weti	91596		7874		23591		1832
,,	Mtambwe	22159		1884		5776		...
,,	Junguni	5121		600		11143		...
,,	Kipangani	3231		302		12934		...
,,	Msuka	1311	123418	99	10759	8175	61619	...
Chake Chake	Chake Chake	145521		20469		28185		7
,,	Kiswani *	56050	201571	3467	23936	4921	33106	...
Mkoani	Jamagombe	92515		7142		5081		...
,,	Mkoani	40059		4492		9506		...
,,	Fufuni	40215		4720		3750		...
,,	Kengeja	38992	211781	3519	19873	4036	22373	...

* Kiswani is in Chake-Chake district: but its exports and imports pass through the Mkoani Port Office on account of Chake-Chake creek.

Table III.

District Seasonal Yields in Pemba from 1907-08 to 1912-13.

	Cloves: Clove season: 1st July to 30th June			Copra: 1st January to 31st December			Oil-palm: 1st January to 31st December		
	Weti fras.	Ch-Chake fras.	Mkoani fras.	Weti fras.	Ch-Chake fras.	Mkoani fras.	Weti fras.	Ch-Chake fras.	Mkoani fras.
1907/08	204739	No record	47333	76627	29668	20248	No record	22	193
1908/09	185915	,, ,,	81284	67445	51199	39425	1343	254	597
1909/10	118277	,, ,,	124589	60552	45575	31834	744	188	110
1910/11	42450	31116	46765	81545	35160	23333	2362	124	1154
1911/12	229722	128908	220476	79728	38720	38216	778	65	589
1912/13†	16418	27225	50362	76644	38762	94373	2505	30	642

† To 31st December 1913.

Table IV.

Average price of Cloves and Stems.

	1907	1908	1909	1910	1911	1912	1913	1914
	Rs. as. ps.	Rs. as. ps.	Rs. as. ps.	Rs. as. ps.	Rs. as. ps.	Rs. as. ps.	Rs. as. ps.	Rs. as. ps.
Zanzibar Cloves	10 3 6	9 2 0	8 8 9	11 4 8	12 5 8	14 5 0	14 5 3	11 5 6
Pemba ,,	9 9 0	8 8 0	8 3 6	10 15 3	10 3 6	13 8 3	14 5 3	10 15 0
Stems	2 6 0	2 6 0	2 0 9	3 0 0	3 0 0	3 14 9	4 5 9	3 2 6

Table V.

Proportions between the Seasonal Yields of Cloves and Stems.

Season.	Cloves fras.	Stems fras.	% of stems to cloves.
1904/05	635568	124242	19½
1905/06	308950	78248	25
1906/07	266512	48307	18
1907/08	755634	153562	20
1908/09	614630	121156	19½
1909/10	409925	84547	25
1910/11	192407	38320	20
1911/12	798663	161187	20
1912/13	135391	28389	21
*1913/14	736623	116962	16

* To the end of March, 1914.

Table VI.

Export of Cloves to different Continents from 1910* to 1913 inclusive.

Continent.	1910 lb.	1911 lb.	1912 lb.	1913 lb.
Europe ...	4800676	7844338	6067460	8789644
America ...	1096215	3510877	2576520	1975518
Asia ...	6758239	8706247	6539807	6772530
Africa ...	128019	199921	68157	275047
Total ...	12783149	20261383	15251944	17812739

* Figures for previous years are given in my 1910 Annual Report.

Table VII.

Return of Free Passes issued to Clove-pickers going to Pemba by Government Steamers.

Year.	Town.	Mkokotoni.	Total.
1907	...	...	3694
1908	...	...	3393
1909	...	...	5495
1910	...	...	806
1911	4164	3788	7952
1912	177	63	240
1913	7083	4257	11320
*1914	96	14	110

* To the end of March, 1914.

Table VIII.

Export of Coconut and Sim-Sim Oil from 1904 to 1913 inclusive.

Year.	Value Rs.
1904	49492
1905	61543
1906	46860
1907	67423
1908	10280
1909	32662
1910	30902
1911	54673
1912	49159
1913	35918

Table IX.

Statement of Imports (not re-exported) of Agricultural Produce and Stock for the past 10 years.

Article.	1904 Rs.	1905 Rs.	1906 Rs.	1907 Rs.	1908 Rs.	1909 Rs.	1910 Rs.	1911 Rs.	1912 Rs.	1913 Rs.
Rice ..	1458618	1700374	1733193	2159321	4319149	3140112	2845509	3193959	4072084	3761600
Maize ..	10364	27032	26850	38566	42091	34784	21260	25684	33010	32733
Sugar ..	278498	270750	284482	425774	461636	569453	515962	549276	622302	635259
Timber ..	26984	102336	127684	96480	124750	111255	53462	112821	125862	139221
Cattle ..	148971	145568	146130	155429	175809	191067	159665	199257	221387	177016
Sheep and Goats	141027	131844	104665	122562	168428	149333	146022	163152	188694	122008
Horses ..	12395	7175	..	5135	6345	600	200	3447	2200	500
Donkeys ..	21928	7431	7932	17224	14245	9605	8022	11514	14002	15116
Tobacco ..	75560	102180	97137	152808	127927	89576	136857	112802	160461	207205

Table X.

Average Mean Temperature, Zanzibar.

Year.	Maximum	Minimum.
1909	84.9	75.9
1910	84.4	76.4
1911	84.3	76.3
1912	85.2	76.6
1913	84.9	76.4
	* 84.7	* 76.3

* Average for 5 years 1909-1913.

Table XI.

Table of Rainfall, Zanzibar and Pemba, Compared with the Clove-crops of the two Islands.

Month.	1907/08 Zanzibar inches	1907/08 Pemba inches	1908/09 Zanzibar inches	1908/09 Pemba inches	1909/10 Zanzibar inches	1909/10 Pemba inches	1910/11 Zanzibar inches	1910/11 Pemba inches	1911/12 Zanzibar inches	1911/12 Pemba inches	1912/13 Zanzibar inches	1912/13 Pemba inches	1913/14 Zanzibar inches	1913/14 Pemba inches
July ..	0.38	3.82	4.02	3.45	2.72	4.07	3.30	3.34	1.53	5.54	0.03	3.40	0.31	1.92
August ..	2.07	2.91	1.28	1.14	3.11	1.35	1.82	1.29	1.76	1.08	1.04	0.49	0.88	0.90
September ..	2.14	1.64	1.59	0.93	2.51	1.29	0.67	0.11	1.22	1.00	6.59	1.72	2.58	1.11
October ..	1.79	5.86	2.58	0.76	6.85	2.75	1.81	0.76	2.89	0.57	0.98	0.60	4.22	1.84
November ..	5.17	8.05	11.45	3.74	10.75	8.67	7.47	8.92	6.26	7.47	5.70	8.86	3.20	4.47
December ..	5.16	4.96	0.45	3.60	12.76	10.21	8.08	5.78	1.86	3.53	17.82	16.86	1.31	1.87
January ..	0.01	0.34	4.28	3.53	4.71	5.50	0.54	0.40	4.36	0.56	0.39	2.31	2.81	6.09
February ..	0.32	0.07	1.32	1.62	2.36	0.22	0.01	0.09	6.99	5.57	1.37	2.57	0.05	2.58
March ..	4.29	1.91	9.29	2.14	0.30	0.14	9.92	7.46	7.39	2.94	9.99	13.15	8.56	5.61
April ..	10.47	9.20	26.80	31.82	14.52	37.56	13.40	29.12	13.09	12.75	17.59	30.52	12.69	9.66
May ..	13.93	23.03	4.56	8.33	11.77	17.94	17.51	21.35	3.45	2.23	11.18	22.16	3.84	7.11
June ..	3.65	12.86	0.19	3.25	0.02	1.11	2.21	5.79	0.17	1.93	0.07	4.07	0.88	2.08
Total ..	49.71	74.65	67.81	64.61	72.38	81.14	66.77	84.41	51.27	45.17	72.75	106.71	41.36	45.24
Total crops in frs. ..	213667	541967	165313	419317	109884	300039	52006	110401	216505	582158	31020	101371	115586	638091

Table XII.

Expenditure on Cultivation for the past 12 years.

Year	Bearing cloves acres	Young cloves acres	Total cloves area acres	Bearing coconuts acres	Young coconuts acres	Total coconut area acres	Total area under trees acres	Cultivation estimate bearing trees Rs.	Cultivation estimate young trees Rs.	Total estimate Rs.	Equal to per acre Rs.
1903	1130	..	1130	1305	625	2030	3160	6000	..	6000	1.9
1904	1130	140	1270	1305	1112	3142	4412	5000	..	5000	1.6
1905	1130	325	1595	1305	910	4052	5647	13000	..	13000	2.3
1906	1130	499	2094	1305	1150	5202	7296	13000	..	13000	1.7
1907	1130	346	2440	1305	1218	6420	8860†	18000	..	18000	2.2
1908	1130	712	3152	1305	493	6913	10065†	105000	12000	117000	12.3
1909	1130	526	3678	1305	489	7402	11080††	88000	6300	94300	10.8
1910	1130	..	3678	1305	1458	8860	12538‡	53000	11600	64600	5.8
1911	1130	..	3678	1305	100	8960	12638‡	50000	6000	56000	5.0
1912	1130	..	3678	1305	150	9110	12788‡	47000†††	5000	52000	4.6
1913	1130	..	3678	1305	350	9460	13138‡	53000	10000	63000	5.4
1914	1130	..	3678	..	..	9460	13138‡	48000	5000	53000	4.5

† 578 acres leased in 1906.

†† 2370 acres leased in 1909.

‡ 1526 acres remaining in lease (1422 acres recovered by forfeiture).

††† Rs. 11,000 granted by Special Warrants in addition, bringing the total up to Rs. 63,000, or an allowance of Rs. 5·6 per acre.

Table XIII.

Revenue.

Sub-head.		1912 Estimate Rs.	1912 Actual Rs.	1913 Estimate Rs.	1913 Actual Rs.
Zanzibar.					
Cloves	...	1,33,000	1,45,902	1,00,000	1,34,720
Coconuts (trees licenced and in hand)	...	44,000	58,312	58,000	70,561
Rent of leased plantations	...	23,986	17,238	18,606	14,584
Rubber	...	500	...	500	...
Sudries	...	2,000	3,932	2,000	4,981
Commission on management of private estates	...	500	124	...	...
Total	...	2,03,986	2,25,508	1,79,106	2,24,846
Pemba.					
Cloves	...	8,500	17,140	9,000	50,465
Coconuts (trees licenced and in hand)	...	2,000	2,131	2,000	2,210
Rent of leased plantations	...	5,156	3,941	5,156	5,704
Rubber	...	12,000	5,696	3,000	3,730
Sundries	...	100	181	100	54
Total	...	27,756	29,089	19,256	62,163
Grand Total Zanzibar and Pemba	...	2,31,742	2,54,597	1,98,362	2,87,009

Table XIV.

Expenditure.

Sub-head. Rs.	1912 Estimate Rs.	1912 Actual Rs.	1913 Estimate Rs.	1913 Actual Rs.
Zanzibar.				
Personal Emoluments: Direction and Office ...	20,072	16,176	28,275	36,757
,, ,, Government Plantations..	13,012	10,276	16,500	
Passages ...	2,190	2,155	1,500	843
Cultivation of Plantations ...	47,000	58,639	53,000	52,736
Clove Gathering and Transport ...	31,500	28,729	25,000	38,116
Food allowance to pickers ...	500	431	500	275
Coconut Gathering ...	700	669	500	146
Upkeep of plantation houses ...	3,000	3,395	3,000	3,614
Plantation requisites ...	1,500	1,533	2,000	1,823
Travelling allowance Cont. and Petties ...	3,000	4,293	4,000	6,142
Rubber Collection ...	300	...	300	85
Erection of boundary pillars ...	1,000	2,858	3,000	3,562
British East Africa:				
Overseer ...	180	150	...	40
Labour ...	800	490	...	134
Travelling Cont. and Petties ...	...	430	...	2650
Planting and upkeep of young Coconuts ...	5,000	3,599	10,000	9,818
Purchase and setting of seed nuts ...	2,500	2,061	2,500	1,561
Labour Extraordinary ...	...	3,385	...	15,086
Compensation for breaking leases ...	...	1,500	...	...
Motor Cycle ...	...	905	...	1,416
Motor Car: 2/3 cost ...	...	...	...	2,128
Purchase of plantations ...	...	...	...	4,820
Office furniture ...	...	...	...	746
Petrol and oil for Cars and Cycles ...	...	...	...	346
Donkey: 2/3 cost ...	...	...	...	332
Legal Expenses ...	...	...	...	343
Total of Zanzibar ...	1,32,254	1,41,674	1,50,075	1,83,521
Pemba.				
Personal Emoluments	4,836	3,408	5856	4218
Cultivation of Plantations ...	6,000	4,857	6,000	4,751
Clove Gathering and Transport ...	3,500	3,709	3,500	12,689
Coconut Gathering ...	300	90	300	103
Upkeep of plantation houses ...	800	580	800	1,427
Plantation Requisites ...	500	63	500	475
Travelling allowance Cont. and Petties ...	700	579	700	376
Rubber Collection ...	5,000	4,455	1,500	2,731
Planting and upkeep of young Coconuts ...	2,000	413	2,000	611
Purchase and setting of seed nuts ...	500	207	500	116
Labour Extraordinary ...	...	1,254	...	...
Purchase of plantations ...	...	...	...	3,000
Total of Pemba ...	24,136	19,615	21,656	30,497
Grand Total: Zanzibar and Pemba ...	1,56,390	*1,61,289	1,71,731	*2,14,018

* Excess met by Special Warrants.

Table XV.

Receipts and Expenditure of individual Shambas, 1912.

Shamba.	Stock. Cloves. No. Bearing.	Stock. Cloves. No. Young.	Stock. Coconuts. No. Bearing.	Stock. Coconuts. No. Young.	Expenses. Supervision and labour. Rs.	c.	Expenses. Sundry. Rs.	c.	Expenses. Total. Rs.	c.	Receipts. Cloves. Rs.	c.	Receipts. Coconuts. Rs.	c.	Receipts. Sundry. Rs.	c.	Receipts. Total. Rs.	c.	Remarks.
Basra ..	10765	3629	1787	1573	5726	48	62	85	5789	33	16261	43	2000	00	45	00	18306	43	
Bet-el-Mal Kubwa ..	246	..	6213	1177	..	..	37	50	37	50	..	..	..	..	2600	00	2600	00	Leased. Rent Rs. 2,600.
Bet-el-Mal Ndogo ..	156	59	298	532	..	..	..	..	..	..	..	..	..	..	340	00	340	00	Leased. Rent Rs. 340.
Bet-el Ras ..	332	..	4585	5747	1609	85	360	81	1970	66	..	..	3493	74	144	00	3637	74	
Bomani ..	..	..	1149	2478	64	30	..	..	64	30	..	..	..	..	300	00	300	00	Leased. Rent Rs. 300.
Bumbwi Mbuyuni ..	1500	1860	234	859	1636	01	322	62	1958	63	3006	46	700	00	5	00	3711	46	Treated as one plantation.
Bumbwi Sudi ..	676	2153	794	1716															
Chuini ..	..	..	1479	4105	443	10	43	58	486	68	..	..	337	50	..	..	337	50	
Chukwani ..	..	..	6080	10673	2390	72	794	85	3185	57	..	..	4085	00	226	50	4311	50	
Chwaka ..	..	..	314	213	156	15	..	..	156	15	..	..	36	28	15	00	51	28	Rent of leased plot Rs. 15.
Darajani ..	1860	37	1094	1836	..	..	..	..	..	..	..	..	..	..	900	00	900	00	Leased. Rent Rs. 900.
Donge and Mwanda ..	2325	54	706	405	194	11	..	..	194	11	..	..	481	71	..	..	481	71	
Dunga ..	3690	1791	3746	6181	6902	54	318	15	7220	60	9731	45	2078	20	170	11	11979	76	
Kimaoni ..	2233	1969	2744	3383	..	..	2	00	2	00	..	..	..	..	2200	00	2200	00	Leased. Rent Rs. 2,200.
Kinuni Moshi ..	1313	770	272	4320	3402	89	55	59	3458	48	3061	32	116	00	1210	87	4388	19	
Kipange ..	3722	2243	399	1838	1596	78	23	79	1620	57	5199	12	660	00	15	00	5874	12	
Kizimbani Kubwa ..	5595	3321	1709	3785															
Kizimbani Ndogo ..	110	122	726	1159	5093	59	310	86	5434	37	11824	02	3431	00	64	00	15319	02	Treated as one plantation.
Bumbwi Kizimbani ..	2214	1479	437	1913															
Kinuni Mdo ..	880	625	858	2450	683	27	43	94	727	21	568	20	900	00	9	00	1477	20	
Kidichi ..	2572	820	5198	4957	5318	48	1141	37	6459	85	644	76	6400	00	1000	50	8045	26	
Kibweni ..	10	..	872	1802															Rent of leased shamba Kibweni Rs. 975.
Kitope ..	6012	5603	1048	13348	4857	56	165	19	5026	05	8487	00	1783	55	39	72	10310	27	
Pungeni and Ngonjoni ..	..	412	995	60															
Kama ..	17	..	926	2173	150	00	..	..	150	00	..	..	..	..	425	00	425	00	Leased. Rent Rs. 425.
Kidote ..	45	..	1191	685	206	64	12	00	218	64	..	..	569	00	..	..	569	00	
Kilimani and Mkuajuni ..	..	..	153	105	7	03	25	00	32	03	..	..	84	85	33	50	118	35	
Kisaoni ..	4	..	2700	596	..	..	..	..	..	..	..	..	..	..	1042	00	1042	00	Rent of leased plantation Rs. 1,000.
Kichwele ..	203	..	119	34	190	95	..	37	191	32	259	67	63	50	60	00	383	17	
Kibonde Mzungu ..	1746	..	3121	514	1981	53	228	44	2209	97	3	61	2400	00	28	42	2432	03	
Marseilles ..	7374	2575	3945	9147															
Manyami ..	3148	1312	529	1197	11343	30	302	76	11646	06	30990	32	5844	00	925	00	37759	32	Rent of leased plantation Kitumba Rs. 900.
El-Hathra ..	3052	3450	725	4128															
Kitumba ..	845	431	2398	1146															
Miwani ..	30	2100	1334	6918	1262	19	27	87	1290	06	408	50	1455	00	..	..	1863	50	
Mlango Kubwa ..	6313	2678	1171	6032	5728	02	188	03	5916	05	4661	12	2214	48	20	00	6895	60	
Mlango Ndogo ..	3936	1989	398	1361															
Mbaleni Kubwa ..	6474	2756	822	2693	4401	03	441	92	4842	95	10963	71	780	50	34	00	11778	21	
Mbaleni Ndogo ..	4289	2489	888	1530	3176	01	47	00	3223	01	8016	69	729	86	19	94	8766	49	

Receipts and Expenditure of individual Shambas, 1912.—(*Continued*).

Shamba.	Stock. Cloves. No. Bearing.	Stock. Cloves. No. Young.	Stock. Coconuts. No. Bearing.	Stock. Coconuts. No. Young.	Expenses. Supervision and labour. Rs.	c.	Expenses. Sundry. Rs.	c.	Expenses. Total. Rs.	c.	Receipts. Cloves. Rs.	c.	Receipts. Coconuts. Rs.	c.	Receipts. Sundry. Rs.	c.	Receipts. Total. Rs.	c.	Remarks.
Mahonda ..	6020	3752	1325	4110	3325	66	281	49	3607	15	7076	55	930	06	96	00	8102	61	
Mkunguni ..	..	..	1473	5495	23	00	..	..	23	00	..	..	..	..	600	00	600	00	Leased. Rent Rs. 600.
Marhubi Garden ..	..	..	204	471	3171	61	414	55	3586	16	..	..	2205	00	263	69	2468	69	
Marhubi ..	222	..	1972	2217															
Miwanzani ..	..	..	110	717	30	25	..	..	30	25	..	..	210	00	35	00	245	00	
Mtoni ..	106	..	5020	6817	4153	13	346	87	4500	00	27	12	4997	01	287	20	5311	33	
Mwembeladu ..	..	..	1005	3419	32	56	..	..	32	56	..	..	..	..	700	00	700	00	Leased. Rent Rs. 700.
Migombani ..	90	..	350	468	810	30	1553	38	2363	68	..	..	103	53	481	24	584	77	
Mazizini ..	61	..	579	4402	191	50	20	00	211	50	..	..	..	..	1150	94	1150	94	Rent of leased plantation Rs. 1,095.
Mwanakerekwi ..	89	..	417	481	78	64	..	..	78	64	25	91	475	00	33	09	534	00	
Miwaleni ..	324	..	320	5	4	33	..	..	4	33	..	..	21	50	153	75	175	25	Rent of leased plantation Rs. 153-75.
Mkanyageni ..	6060	2648	642	1866	3609	64	84	23	3693	87	7445	97	800	00	2	00	8247	97	
Mgongowangamia ..	2223	1084	429	1695	1494	58	111	75	1606	33	457	96	225	00	43	00	725	96	
Mpapa ..	45	211	3467	6258	3	00	..	..	3	00	..	..	..	..	2000	00	2000	00	Leased. Rent Rs. 2,000.
Mangapwani ..	..	..	403	4	20	00	..	..	20	00	..	..	..	..	..	..	..	..	See "Mkokotoni".
Mpaka Dutch ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	00	10	00	Leased. Rent Rs. 10.
Mkokotoni ..	..	..	605	886	727	25	676	06	1403	31	..	..	1089	39	..	..	1089	39	Receipts both of Mangapwani and Mkokotoni together.
Mwera Bridge ..	4	..	83	27	..	..	..	..	..	..	..	..	..	..	60	00	60	00	Leased. Rent Rs. 60.
Nyanjalle ..	164	..	1309	3291	51	25	..	..	51	25	..	..	..	..	675	00	675	00	Leased. Rent Rs. 675.
Nyangombe ..	10	..	724	260	4	00	..	..	4	00	..	..	600	00	39	00	639	00	
Selem ..	10756	2997	4137	12078	6726	92	245	11	6973	03	12825	86	5600	00	71	74	18497	60	
Sebleni ..	..	..	225	5262	484	00	345	00	829	00	..	..	194	24	75	00	269	24	Rent of leased plantation Rs. 30.
Walezo and Chumbuni ..	114	15	645	579	97	36	..	..	97	36	48	99	224	00	26	00	298	99	
Ziwani ..	276	350	1021	14	168	47	..	..	168	47	14	79	216	77	1	50	233	06	
B. E. A. Estates ..	..	..	..	..	315	00	..	..	315	00	..	..	765	00	..	..	765	00	

Note.—Clove trees are planted 21 feet apart, or 98 per acre, square planting.
Coconuts are planted 28 to 35 feet apart, according to locality, or 35 to 48 per acre.

Table XVI.

Receipts and Expenditure of individual Shambas, 1913.

Shamba	Stock: Cloves No. Bearing	Stock: Cloves No. Young	Stock: Coconuts No. Bearing	Stock: Coconuts No. Young	Expenses: Supervision and Labour Rs. c.	Expenses: Sundry Rs. c.	Expenses: Total Rs. c.	Receipts: Cloves Rs. c.	Receipts: Coconuts Rs. c.	Receipts: Sundry Rs. c.	Receipts: Total Rs. c.	Remarks.
Basra ..	10765	4129	1787	1573	7038 28	248 00	7286 28	12975 20	2644 90	12 00	15632 10	
Bet-el-Mal Kubwa ..	216	..	6213	1177	.. ..	.. ..	.. ..	.. ..	.. ..	2600 00	2600 00	Leased. Rent Rs. 2,600.
Bet-el-Mal Ndogo ..	156	59	298	532	.. ..	.. ..	.. ..	.. ..	.. ..	340 00	340 00	Leased. Rent Rs. 340.
Bet-el-Ras ..	332	..	4585	5747	1376 36	561 37	1937 73	.. ..	6807 00	208 14	7015 44	
Bomani ..	..	..	1149	2478	.. ..	36 25	36 25	.. ..	.. ..	300 00	300 00	Leased. Rent Rs. 300.
Bumbwi Mbuyuni ..	1500	1860	234	859	2438 60	38 64	2477 24	1942 40	850 00	9 00	2801 40	
Bumbwi Sudi ..	676	3153	794	1716					916 00	83 00	999 00	
Chuini ..	..	..	1479	4405	318 99	60 89	379 88	.. ..	4000 00	52 56	4052 56	
Chukwani ..	..	..	6080	17673	4682 10	1211 22	5893 32	.. ..	504 04	15 00	519 04	Rent of leased plot Rs. 15.
Chwaka ..	..	..	314	213	187 99	.. ..	187 99	.. ..	13 00	901 50	914 50	Darajani shamba leased. Rent Rs. 900.
Darajani and Market ..	1860	37	1094	1836	.. ..	1 62	1 62	.. ..	306 00	6 00	773 47	
Donge and Mwanda ..	2325	54	706	405	738 00	15 00	753 00	461 47	3000 00	62 98	14582 23	
Dunga ..	5090	1791	3746	6181	8785 25	3485 84	12271 09	11519 25		5 00	5 00	
Gulioni ..	..	..	7	4	.. ..	.. ..	.. ..	.. ..	2200 00	.. ..	2200 00	Leased. Rent Rs. 2,200.
Kinaoni ..	2285	1969	2744	3383	2473 51	103 67	2577 18	1014 54	140 00	677 56	1832 10	
Kinuni Moshi ..	1313	930	272	4330	1912 82	83 46	1996 28	2445 28	695 20	27 00	3167 48	
Kipange ..	3722	2968	399	1913								
Kizimbani Kubwa ..	5595	3746	1709	3785	4666 68	38 74	4705 42	7636 58	3717 00	134 50	11488 08	
Kizimbani Ndogo ..	110	122	726	1159								
Bumbwi Kizimbani ..	2214	1479	437	1913								
Kinuni Mdo ..	880	1000	858	2450	601 92	12 00	613 92	.. ..	1309 50	28 50	1338 00	
Kidichi ..	2572	1020	5198	5957	4119 84	297 76	4417 60	3677 43	6450 00	1021 50	11148 93	Kibweni shamba leased. Rent Rs. 975.
Kibweni ..	10	..	872	1802								
Kitope ..	6012	7603	1048	14348	6042 59	174 43	6217 02	4582 91	1740 00	29 00	6358 91	
Pungeni and Ngonjoni ..	..	412	995	60						439 50	439 50	Leased. Rent Rs. 425.
Kama ..	17	..	926	2173	.. ..	.. ..	.. ..	.. ..	.. ..	310 00	760 00	Sold.
Kidote ..	45	..	1191	685	113 44	150 25	263 69	.. ..	450 00	13 50	351 62	
Kilimani and Mkuajuni ..	..	..	153	525	.. ..	1 28	1 28	.. ..	338 12	1040 00	1040 00	Leased. Rent Rs. 1,000.
Kisaoni ..	4	..	2700	596	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	85 62	
Kichwele ..	203	..	119	34	135 00	.. ..	135 00	.. ..	85 62	.. ..	4880 65	
Kikonde Mzungu ..	1746	..	3121	1514	3008 11	25 ..	3033 15	1000 00	3850 00	30 65		
Marseilles ..	7374	2575	3945	11147								
Manyami ..	3148	2262	529	1187	15912 42	3014 60	18927 02	32363 38	6522 00	951 00	39836 38	Rent of leased shamba Kitumba, Rs. 900.
El-Hathra ..	3052	4345	725	4128								
Kitumba ..	845	431	2398	1146								
Miwani ..	30	2100	1334	7168	481 56	.. ..	481 56	.. ..	2263 10	3 00	2266 10	
Mlango Kubwa ..	6313	3678	1171	6532	7326 74	95 25	7421 99	8923 ..	2250 00	27 00	11200 07	
Mlango Ndogo ..	3936	2689	398	1461								
Mbaleni Kubwa ..	6174	3556	822	2693	4132 87	103 33	4236 20	3532 16	1142 00	33 00	4707 16	
Mbaleni Ndogo ..	4289	3189	888	1530	2288 48	23 78	2312 26	2579 23	541 40	2 00	3122 63	

Receipts and Expenditure of individual Shambas, 1913.—*(Continued).*

Shamba	Stock				Expenses					Receipts							Remarks.
	Cloves		Coconuts		Supervision and labour		Sundry		Total		Cloves		Coconuts		Sundry		Total		
	No. Bearing	No. Young	No. Bearing	No. Young	Rs.	c.	Rs.	c.	Rs.	c.	Rs.	c.	Rs.	c.	Rs.	c.	Rs.	c.	
Mahonda ..	6020	4848	1325	4610	3393	50	205	92	3599	42	5117	23	1030	56	50	25	6198	04	
Mkunguni ..	...	...	1473	5495	...	...	...	...	...	...	...	...	...	...	600	00	600	00	Leased. Rent Rs. 600.
Marhubi ..	922	...	1972	3431	3410	85	297	92	3708	77	420	05	3115	00	351	50	3886	55	
Marhubi Garden ..	...	...	204	1165															
Miwanzini ..	...	...	110	717	60	00	3	49	63	49	...	...	260	00	141	19	401	19	
Mtoni ..	106	...	5020	6967	2565	25	126	63	2691	88	...	...	5172	00	545	66	5717	66	
Mwembeladu ..	...	...	1005	3419	...	...	19	11	19	11	...	...	...	...	910	28	210	28	Rent of leased plantation Rs. 700.
Migombani ..	90	...	350	468	884	39	70	51	954	90	204	16	499	00	185	56	888	72	
Mazizini ..	61	...	579	4202	171	89	4510	19	4682	08	...	...	1505	00	268	03	1773	03	Rent of leased plantation Rs. 118-03.
Mwanakerekwi ..	89	...	417	481	87	24	..	...	87	24	...	...	560	00	52	00	612	00	
Mkanyageni ..	6031	3509	642	1921	5416	82	201	91	5618	73	11708	23	676	33	7	50	12392	06	
Mgongowangamia ..	2223	1324	429	1595	2083	77	31	86	2115	63	1679	24	320	95	19	00	2019	19	
Mpapa ..	45	211	3467	6258	...	...	8	00	8	00	...	...	...	...	2036	00	2036	00	Rent of leased plantation Rs. 2,000.
Mangapwani ..	...	...	403	4	148	14	...	...	148	14	...	...	...	...	700	00	700	00	
Mkokotoni ..	...	...	605	886	564	00	...	...	564	00	...	...	...	...	655	54	655	54	
Mpaka Dutch ..	...	...	...	..	...	...	...	...	...	...	...	...	...	...	10	00	10	00	Leased.
Mwera-Bridge ..	4	...	83	27	...	...	...	...	...	...	...	...	...	...	60	00	60	00	Leased.
Nyanjalle ..	164	...	1309	3291	...	...	...	...	...	...	...	...	...	...	706	50	706	50	Rent of leased plantation Rs. 675.
Nyangombe ..	10	...	724	160	2	00	...	...	2	00	...	...	730	00	17	00	747	00	
Selem ..	10756	6084	4137	13078	9126	27	994	44	10120	71	11469	75	5680	00	440	60	17590	35	Rent of leased plantation Rs. 30.
Sebleni ..	...	...	225	5262	182	64	143	26	325	87	...	...	305	00	185	00	490	00	
Walezo and Chumbuni ..	114	15	645	579	60	40	60	25	120	65	...	...	203	00	992	00	1195	00	
Ziwani ..	276	350	1021	14	74	91	50	75	125	66	39	08	512	78	18	00	569	86	

Table XVII.

Table showing clove-yields from principal plantations from Seasons 1907/08 to 1913/14 (to the end of March 1914).

Shamba.	1907/08				1908/09				1909/10				1910/1911			
	No. of bearing trees	Cloves frs.	Stems frs.	lb. per tree	% of stems to cloves	Cloves frs.	Stems frs.	lb. per tree	% of stems to cloves	Cloves frs.	Stems frs.	lb. per tree	% of stems to cloves	Cloves frs.	Stems frs.	lb. per tree	% of stems to cloves
Marseilles .. (Manyami and El-Hathra)	13574	934	142	2·77	15.20	3146	588	3.62	18.69	563	77	1.65	13.67	202	33	.60	16.33
Basra ..	10765	886	155	3·38	17·49	973	162	3·69	16·64	573	63	2·06	10·99	71	15	·27	21·12
Dunga ..	3090	467	75	6·10	16·06	545	77	7·04	14·12	204	40	2·76	19·60	23	5	·31	21·73
Mahonda ..	6020	84	15	·57	17·86	454	84	3·12	18·50	800	110	5·29	13·75	145	22	·97	15·17
Mkanyageni ..	6060	708	77	4·53	10·87	661	54	4·12	8·16	570	90	3·81	15·78	258	23	1·62	8·91
Mbaleni Kubwa ..	6474	147	30	·96	20·40	465	67	2·87	14·40	444	60	2·72	13·51	127	20	·79	15·74
Mbaleni Ndogo ..	4443	302	38	2·67	12·58	631	107	5·81	16·95	255	33	2·26	12·94	99	17	·91	17·17
Kitope ..	6899	230	38	1·35	16·52	1275	217	7·56	17·01	198	32	1·16	16·16	206	34	1·21	16·15
Kipange ..	3722	332	17	3·28	5·12	568	104	6·31	18·30	99	18	1·10	18·18	39	7	·43	17·94
Mlango Kubwa and Ndogo..	10249	1061	197	4·29	18·56	859	92	3·24	10·71	667	87	2·57	13·04	303	32	1·14	10·55
Fufuni ..	10593	1300	210	4·99	16·15	2247	438	8·87	19·49	263	55	3·03	20·91	375	55	1·42	14·66

Shamba.	1911/12				1912/13				1913/14			
	Cloves frs.	Stems frs.	lb. per tree	% of stems to cloves	Cloves frs.	Stems frs.	lb. per tree	% of stems to cloves	Cloves frs.	Stems frs.	lb. per tree	% of stems to cloves
Marseilles .. (Manyami and El-Hathra)	3017	440	8·91	14·58	103	18	·31	17·47	2822	537	8·66	19·02
Basra ..	1857	224	6·26	12·06	51	7	·18	13·72	1046	253	4·22	24·18
Dunga ..	1055	145	13·59	13·74	44	9	·60	20·45	968	168	12·86	17·35
Mahonda ..	850	112	5·59	13·17	31	6	·21	19·35	454	108	3·26	23·78
Mkanyageni ..	891	94	5·68	10·54	77	14	·52	18·18	922	211	6·54	22·88
Mbaleni Kubwa ..	1202	167	7·40	13·89	38	5	·23	13·16	982	170	6 03	17·31
Mbaleni Ndogo ..	797	103	7·08	12·92	14	2	·12	14·22	243	53	2·33	21·81
Kitope ..	1026	154	5·98	15 00	15	3	·09	20·00	459	91	2·79	19·82
Kipange ..	570	95	6·25	16·66	17	3	·18	17·64	202	31	2·19	15·34
Mlango Kubwa and Ndogo..	1116	212	4·53	18·99	76	8	·28	10·53	743	145	3·03	19·51
Fufuni ..	1992	474	8·14	23·79	115	20	·44	17·38	3057	627	12·17	20·51

Table XVIII.

Clove Crops from Government Plantations.

Year.	Zanzibar.	Pemba.	Total.	Season.	Total crop.	Percentage of of Govt. to whole.
1899	...	...	12433	...	...	...
1900	...	...	2632	...	...	...
1901	...	...	2993	...	..	...
1902	...	...	...	1902-03	12942	3·02
1903	10596	2106	12702	1903-04	1872	8·41
1904	756	5039	5795	1904-05	7986	1·05
1905	3288	1335	4623	1905-06	12869	4·41
1906	12003	3403	15406	1906-07	4612	1·77
1907	7680	4528	12308	1907-08	12071	1·59
1908	57	1581	1638	1908-09	18743	4·61
1909	15323	4745	20068	1909-10	11073	2·82
1910	3468	1182	4650	1910-11	2155	1·12
1911	4775	3857	8632	1911-12	21461	2·80
1912	10983	1268	12251	1912-13	1679	1·24
1913	10429	4473	14866	*1913-14	15018	2·06

* To the end of March 1914.

Table XIX.

Fires on Government Plantations.
Table of trees lost and damaged.

1912.			1913.		
Bearing clove-trees	...	22	Bearing coconut trees	...	142
Unbearing clove-tree	...	4	Unbearing coconut trees	...	90
Bearing coconut trees	...	37	Mango trees	...	2
Unbearing coconut trees	...	244	Ornamental trees	...	2
			Palm trees	...	27

Table XX.

Leased Plantations.

No.	Name of plantation.	Name of Lessee.	Date of lease.	Term.	Date of expiry.	Rent p. a. Rs.
1.	Bet-el-mali-kubwa	G. B. Ennis ...	1 6 06	25 years	31 5 31	2,600
2.	Bet-el-mali-ndogo	Hakam Kariksing ...	23 9 09	13 ,,	22 9 22	340
3.	Bomani	Hamed bin Saleh ...	4 10 09	5 ,,	3 10 14	300
4.	Chwaka Verein	L. Wagner ...	1 4 01	50 ,,	31 3 51	15
5.	Darajani	Hamed b. Mohamed...	17 7 06	10 ,,	16 7 16	900
6.	Kama	Salim bin Khamis ...	4 10 09	10 ,,	3 10 19	425
7.	Kibweni (part of Kidiche 1)	Seif bin Said ...	10 7 06	50 ,,	9 7 56	250
8.	,, (part of Kidiche 2)	Said bin Hamed ...	27 9 09	6 ,,	26 9 15	725
9.	Kisaoni	Sultan bin Hamisi ...	19 7 06	8 ,,	18 7 14	1,000
10.	Kitumba	Hilal bin Salim ...	22 10 09	13 ,,	21 10 22	900
11.	Mwembeladu	Mfaume b. Kanga and Juma bin Hatibu...	21 9 09	13 ,,	20 9 22	700
12.	Mkunguni	Mohamed bin Miraj ...	21 9 09	13 ,,	20 9 22	600
13.	Mpapa	Kasam Devji and Hamed b. Masud ...	22 9 09	13 ,,	21 9 22	2,000
14.	Mpaka Dutch	Juma Thanum ...	31 12 09	6 ,,	30 12 15	10
15.	Nyanjalle	Salim bin Khamis ...	4 10 09	10 ,,	3 10 19	675
16.	Sebleni	Abdul Hoosein Pishori	15 4 10	10 ,,	14 4 20	30
17.	Kinaoni	Kasam Devji ...	20 8 09	13 ,,	19 8 22	2,200
18.	Mwera Bridge	Mwalim Suleman bin Baruk ...	1 1 14	1 ,,	31 12 14	70
19.	Kidogobassi	Mwalim Suleman bin Baruk ...	1 1 14	1 ,,	31 12 14	60
20.	Kilimani	Khushal Narshi ...	1 1 13	3 ,,	31 12 15	60
21.	Tundaua (Pemba)	Abdullah Devji ...	19 4 10	8 ,,	18 4 18	5,125
		Total ...				18,985

Table XXI.

Table showing the Rent for licencing coconuts: from 1910 to 1914 inclusive.

	Shamba.	No. of coconut trees: stock of 1910.	Licence Rent 1910	1911	1912	1913	1914	Average gross receipts previous to licencing: 1907 to 1909 inclusive.	1914 gain % over average.	Average No. of nuts picked p. a. in 3 years previous to licencing.
			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
1	Basra ...	1787	1,200	1,550	2,000	2,600	2,950	1,047	64	34200
2	Bet-el-ras ...	4585		In lease		6,800	7,800	2,742	65	86300
3	Bumbwi Kizimbani ...	437	290	310	350	325	580	217	62	...
4	Bumbwi Sudi ...	1080	600	660	700	850	875	379	57	...
5	Chukwani ...	6080	...	3,260	4,050	4,000	4,125	1,980	52	75300
6	Chuini ...	1479		In lease		1,110	1,220	453	63	...
7	Donge ...	299		In lease		300	370	130	65	...
8	Dunga ...	3746	‡	1,800	1,600	3,000	4,525	846	81	27876
9	El-Hathra ...	725	616	675	890	1,050	1,210	460	62	...
10	Kitope ...	1048	leased	1,260	1,260	1,070	1,690	987	41	...
11	Kidiche ...	5198	„	5,850	6,400	6,450	8,950	2,933	69	...
12	Kibonde Mzungu ...	6121	„	2,200	2,400	2,740	3,780	leased	...	...
13	Kilimani ...	120		In lease		335	400	„	...	...
14	Kinuni Moshi ...	272	80	100	116	140	270	62	77	...
15	Kipange ...	399	500	500	600	670	1,000	332	66	...
16	Kizimbani Kubwa ...	1709	1,450	1,600	1,850	2,020	3,360	1,041	69	...
17	Kizimbani Ndogo ...	726	leased	710	1,224	1,360	1,600	leased	...	...
18	Kinuni Mdo ...	858	„	800	900	1,290	1,635	228	86	...
19	Kichwele ...	119	‡	‡	‡	...	125	55	56	...
20	Manyami ...	529	410	440	560	565	800	264	67	..
21	Marseilles ...	3945	3,285	3,350	4,394	4,810	6,915	2,027	70	76400
22	Miwanzini ...	110	‡	180	210	260	385	144	62	...
23	Marhubi ...	1972	In lease		2,000	2,740	3,200	1,592	50	41800
24	Miwani ...	1334	In lease		1,940	1,850	2,675	966	63	...
25	Mbaleni Kubwa ...	822	‡	930	930	975	1,600	407	74	...
26	Mbaleni Ndogo ...	890	1,020	1,025	1,090	530	925	750	19	...
27	Marhubi Gardens ...	125	...	...	230	375	490	with H. H.	...	...
28	Mtoni ...	5020	3,700	4,225	4,700	4,710	7,775	3707	52	110250
29	Mkanyageni ...	642	640	650	650	650	1,125	436	61	...
30	Migombani ...	350		leased		430	465	33	92	...
31	Mlango Kubwa ...	1171	1,100	1,200	1,800	1,800	2,250	761	66	...
32	Mlango Ndogo ...	398	300	400	415	450	850	218	74	...
33	Mazizini ...	671		leased		1,455	2,115	926	56	...
34	Mahonda ...	1335	1,000	1,000	1,000	1,020	2,375	591	75	...
35	Mgongowangamia ...	429	220	250	255	295	430	101	76	...
36	Mwanakerekwi ...	417	...	350	475	560	1,230	In lease	...	...
37	Migombani Gardens ...	5	...	...	...	12	14	In lease	...	...
38	Market ...	...	‡	‡	‡	13	29	with Collectorate	...	...
39	Gulioni ...	7	Private property		‡	10	12	Private property	...	...
40	Nyamgombe ...	724	In lease		600	730	1,790	In lease	...	...
41	Pungeni and Ngonjoni ...	763	550	550	560	670	1,800	was included in Kitope	...	...
42	Sebleni ...	225	‡	170	170	1,305	970	187	80	...
43	Selem ...	4355	4,980	5,000	5,600	5650	7,425	3486	53	...
44	Walezo and Chumbuni ...	645	...	200	224	203	225	158	29	...
45	Wireless Station ...	...	Included in Migombani			...	205	Included in Migombani		...

‡ Nuts were picked by the Government.

Table XXII.

Public Gardens Department.

Expenditure.

Sub-head.	1912 Rs. cts.	1913 Rs. cts.
Personal Emoluments	1,275 90	1,723 03
Garden Requisites and Seeds	835 91	748 64
Contingencies and Petties	405 10	406 10
Clothing for Garden-keepers	... ...	... ...
Upkeep of Town and Road-side Planting and of Mnazi Moja ...	†8,400 76	†4,149 26
Total Rs. ...	10,917 67	7,027 03

† Excess met by Special Warrants.

Revenue.

	1912 Rs. cts.	1913 Rs. cts.
From all Sources † ...	1,010 00	1,351 00

As the revenue is paid in as Miscellaneous Revenue, there is no estimate for it.

2212 † Inclusive of pine apples and Bombay mangoes.